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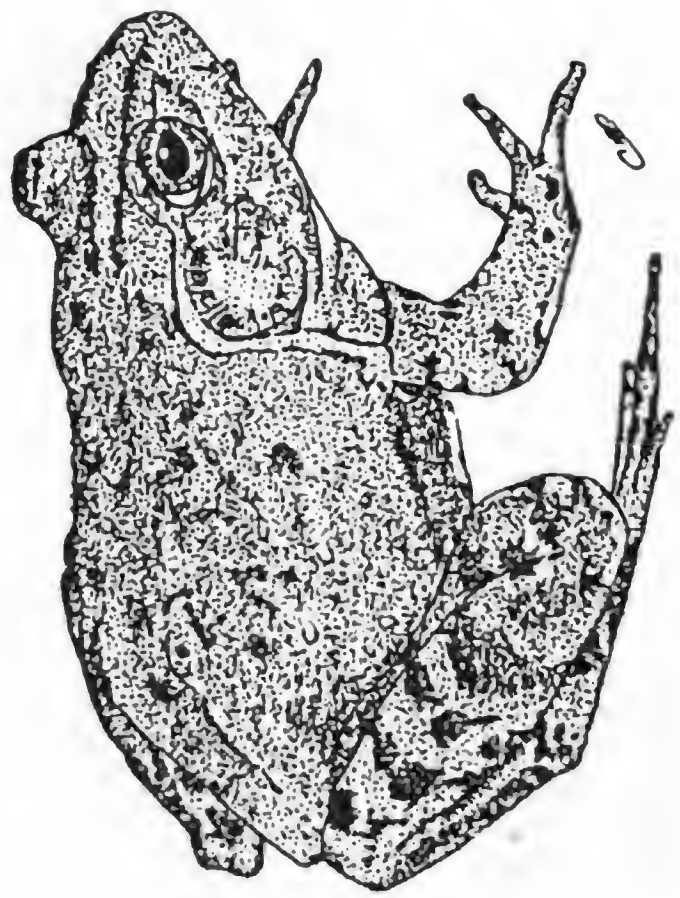

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Editor, *Catesbeiana*
Department of Biology
Liberty University
Box 20,000
Lynchburg, VA 24506

Paul Sattler
Biol. Dept., Liberty U., Box 20,000
Lynchburg, VA 24506-8001

BULLETIN INFORMATION

Catesbeiana is issued twice a year by the Virginia Herpetological Society. Membership is open to all individuals interested in the study of amphibians and reptiles and includes a subscription to *Catesbeiana* and admission to all meetings.

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EDITORIAL POLICY

The principle function of *Catesbeiana* is to publish observations and original research about Virginia herpetology. Rarely will articles be reprinted in *Catesbeiana* after they have been published elsewhere. All correspondence relative to suitability of manuscripts or other editorial considerations should be directed to Paul Sattler, Editor, Department of Biology, Liberty University, Box 20,000, Lynchburg, VA 24506.

Major Papers

Manuscripts being submitted for publication should be typewritten (double spaced) on good quality 8½ by 11 inch paper, with adequate margins. Consult the style of articles in this issue for additional information. Articles will be refereed by at least one officer (past or present) of the Virginia Herpetological Society in addition to the editor. All changes must be approved by the author before publication; therefore manuscripts must be submitted well in advance of the March or September mailing dates.

Reprints of articles are not available to authors; however, authors may reprint articles themselves to meet professional needs.

(Editorial policy continued on inside back cover.)

CATESBEIANA

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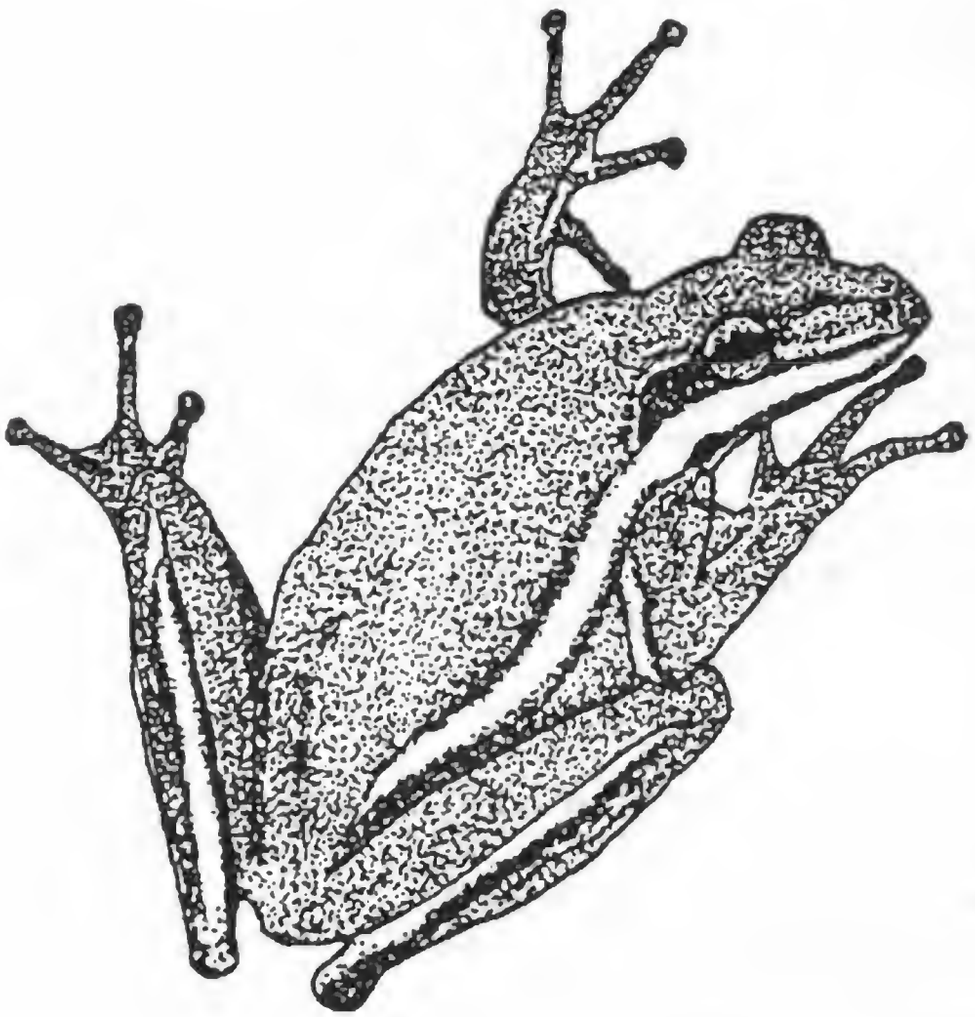
MEETING NOTICE

The spring meeting of the Virginia Herpetological Society will be held April 7-8, 1990 at Holiday Lake 4H Center, in Appomattox County. See page 32 for details.



Hyla cinerea

Feb. 1979

CAP

Contributions to the History of Virginia Herpetology I: John B. Lewis' "List of Amphibians Observed in Amelia, Brunswick and Norfolk Counties"

Joseph C. Mitchell
Department of Biology
University of Richmond
Richmond, Virginia 23173

The history of herpetology in Virginia contains the contributions of numerous individuals. Some, like Emmett Reid Dunn (e.g., 1915, 1918, 1926) and Richard L. Hoffman (e.g., 1945, 1951, 1967), advanced the discipline professionally through their publications in scientific journals. Other people, interested in herpetology more as a hobby, contributed by being active in the largely amateur Virginia Herpetological Society. Franklin J. Tobey, secretary of the VHS and compiler of the first set of distribution maps (1985) exemplifies this approach. Still others who were simply interested in nature contributed through education and by writing occasional articles for magazines or newsletters. Some of these people are well known, others are not. All should be recognized.

The first of this series of historical papers describes and examines the contributions of John B. Lewis to Virginia herpetology. Papers to follow will contain biographies and unpublished observations and data that are largely unavailable.

John B. Lewis (1868-1957) was an all around naturalist. Originally from Kentucky, Lewis moved to Bowers Hill in what is now Chesapeake, Virginia in 1903. He worked as a county agent in Brunswick County from 1916 to late 1928 when he entered Cornell University. In 1930 he returned to Virginia, this time as county agent in Amelia County. In 1940, at the age of 72, he became the resident naturalist of the Seward Forest Experiment Station in Brunswick County, then owned by the University of Virginia. He retired in 1947. Ornithology and botany occupied Lewis' primary interests. He published on the birds of Amelia and Brunswick Counties (Lewis, 1938) and assisted the Harvard University botanist M. L. Fernald in collecting plant specimens from Brunswick County and vicinity (Fernald, 1945). The small, rare heartleaf *Hexastylus lewisii* is named after him.

Among the papers of the Seward Forest Archives (#10,026), Manuscripts Division, Special Collections Department of the University of Virginia Library are three unpublished manuscripts on the amphibians and reptiles of Virginia by J.B. Lewis. The first two, apparently written in the late 1930's, contain his observations from several locations around the state taken from about 1920 to the mid-1930's. One is on amphibians, reproduced here, and another is on reptiles. The third is an annotated list of the amphibians of Seward Forest.

Lewis' manuscript can be viewed in several ways. It is an historical document because it portrays the way a general naturalist, and not a herpetologist, viewed the herpetofauna over 50 years ago. It provides information about amphibians and reptiles in areas not well studied. Lewis' way of writing about these animals differs from that of most modern naturalists. I have reproduced this manuscript in its entirety, with only spellings corrected and current scientific names added in brackets where necessary.

"Class Amphibia

Order Caudata

Family Pleurodelidae (Salamandridae)

Newt, *Triturus viridescens*. [*Notophthalmus viridescens*]
Amelia. Very common in ponds and swamps, and in the subadult stage, in the woods away from water.
Brunswick. Same as for Amelia.

(A number of other salamanders have been seen, but no special study of them was made, and no records kept.)

Family Amphiumidae

Congo Snake. *Amphiuma means*.
Norfolk County. An animal known locally as mud puppy, that was common in the mud of ditch bottoms and swamps, seemed to be of this species.

Order Salientia

Family Pelobatidae

Spadefoot Toad, *Scaphiopus holbrooki*[*i*].
Amelia. One record. Just after sunset the evening of July 20, 1937, following a day of heavy, warm rain, a number of spadefoots set up a great outcry in a rain pond in an old roadway just across the present highway from our home. The place is pretty much overgrown with bushes and honeysuckle. After dark I entered this thicket with a flashlight and got a good view of two of the spadefoots as they sang. They were lying flat on top of the water, and when in singing the throat was suddenly inflated, its buoyancy threw the animal into an erect position in the water. The song is very loud and quite short in duration. Much louder and probably less than half as long as the call of the Fowler's toad. I can compare it to nothing better than to a short, strained bleat of a good sized lamb. The opening sound has the ba sound strongly marked. It seems to have a ventriloquial quality that makes it seem to be much closer to the listener than it really is. These toads were heard only the one night.
Brunswick. Not heard or seen.
Elizabeth City County. While in Hampton in the spring of 1927, Prof. Turner of the Biology Department of Hampton Institute showed me specimens of spadefoots that he had collected a few days previous from rain pools on the campus following a heavy rain.
Roanoke County. In June 1935, M.G. Lewis, of Salem, sent me three living specimens of spadefoot toads that he collected from rain pools just outside the town limits. I have two of these preserved in formalin. He has heard and seen them twice since then, not at the same place, but in the same section, and always after long, heavy rains.

Family Bufonidae

American Toad. *Bufo americanus.*
Amelia. Fairly common. Its long continued, musical trill being heard with the first really warm nights of spring. First records are from March 14 to April 7, averaging March 18.
Brunswick. Same as for Ameila.

Fowler's Toad. *Bufo* [*woodhousii*] *fowleri.*
Amelia. Common. Later to appear in spring. First dates April 21 to

May 9, average about May 3. Its song continues through June. The song is short and much less musical than that of the American toad. It gives the impression of being a great strain to the singer. It is double in tone.
Brunswick. Same as for Amelia.

Family Hylidae

Cricket frog. *Acris gryllus.* [probably = *Acris crepitans*]
Ameila. Locally abundant about ponds and small streams. Date of first appearance in spring averaging May 5. Is active well into November on warm days.

Swamp Tree Frog, *Pseudacris feriarum.*
Ameila. Abundant about ponds and in swamps. One of the first to tune up in spring, often beginning early in February.
Brunswick. Same as for Ameila.

Tree Toad, *Hyla versicolor.* [may be *Hyla chrysoscelis*]
Amelia. Fairly common. Does not appear until the weather is really warm.
Brunswick. Abundant. I have several records of these frogs congregating in noisy multitudes in swampy places on hot, sultry nights, doubtless to mate and lay their eggs. The dates recorded are as follows: May 15, 1921; May 18, 1924; July 4, 1924; August 5, 1925. [I] have not seen these camp meetings in Amelia.

"Pull-Blanket" Frog, *Hyla cinerea.*
Norfolk County. These frogs are very common in the fresh water marshes along the head waters of Western Branch of the Elizabeth River, and about pools in the Dismal Swamp. The common name given is one used by the negroes of that section, and is an imitation of the odd, nasal, three syllable call that is constantly heard in spring. These frogs may have been of the subspecies *evittata*, as a specimen sent to me from Charles County, Maryland, May 21, 1921, was of that subspecies.

Spring Peeper, *Hyla crucifer.* [*Pseudacris crucifer*]
Amelia. Abundant. Our noisiest frog. Appears in spring a little later than *Pseudacris.* First dates are from February 27 to March 12.
Brunswick. Same as for Amelia.

Family Ranidae

Bull Frog, *Rana catesbeiana.*
Ameila. Fairly common about large ponds and swamps, but in danger of extermination by hunters. The night of May 25, 1930 there was a great concentration of them at an old ice pond a half mile west of Ameila village. At times their bellowing became a deep roar that would continue for a full minute, then die away somewhat, only to rise to full fortissimo.
Brunswick. Common about the larger ponds up to 1928.

Green Frog, *Rana clamitans.*
Amelia. Locally fairly common about ponds and swamps. Begins singing late and keeps it up until midsummer. First heard about May 4, average.
Brunswick. Same as for Ameila.

Leopard Frog, *Rana pipiens.* [*Rana utricularia*]
Amelia. Not common. Congregates about ponds in very early spring, where its low, guttural croaking may be heard.
Brunswick. Same as for Amelia.

Wood Frog, *Rana sylvatica.*
Rockbridge County. One caught near the top of House Mountain, in early August, 1922."

Discussion

Several species in Lewis' article are noted for the first time as occurring in four Virginia localities. These are *Scaphiopus holbrookii* in Amelia County, Roanoke County, and the City of Hampton and *Notopthalmus viridescens* and *Pseudacris feriarum* in Brunswick County (Tobey, 1985; Mitchell and Pague, in prep.). The listing of *Pseudacris crucifer* for Brunswick County provides a second literature record for this area (Bazuin, 1983). Most of Lewis' observations in Amelia County were at his residence; its location is currently unknown. Those in Brunswick County were made east of Triplett, the site of the now defunct Seward Forest Experiment Station.

It is interesting to note that Lewis observed an apparent decline in bullfrog populations over the decade or so centered around the 1930's.

To him the obvious cause was the overcollecting for consumption. Such observations foretell of similar concerns echoed today. However, additional factors, such as loss of nontidal wetlands, may have contributed to the apparent declines of the seventies and eighties.

His observations on the natural history of each species are accurate and add previously unknown information on breeding and calling dates for anurans in the southern Virginia Piedmont. This is an area where such data are often lacking. The Seward Forest collections, including Lewis' specimens, were donated to VPI&SU in Blacksburg, Virginia around 1970 and are now in the American Museum of Natural History.

Lewis' classification and scientific names were taken from the 13th edition of David Starr Jordan's Manual of the Vertebrate Animals (Jordan, 1929). This was the first "field guide" available to many naturalists from the late 1800's to about 1930. It covered all vertebrate groups and provided keys and identification features for all known species in the northeastern quarter of the United States, including Virginia. Thirteen editions were published from 1876 to 1929. Based on information about his early interest in natural history (Mitchell, unpublished), Lewis had apparently used several of them throughout his adult life.

Despite several taxonomic changes that have occurred since he wrote this manuscript, the species Lewis observed were identified accurately. His natural history observations in the southern Piedmont are especially useful. Thus, Lewis' paper is a valuable addition to the herpetological literature of Virginia.

Acknowledgments

I thank Christina Bolgiano for introducing me to the University of Virginia Archives. Permission to reproduce Lewis' manuscript was provided by the Curator of Manuscripts/University Archivist of the Alderman Library. Kurt A. Buhlmann commented on the manuscript.

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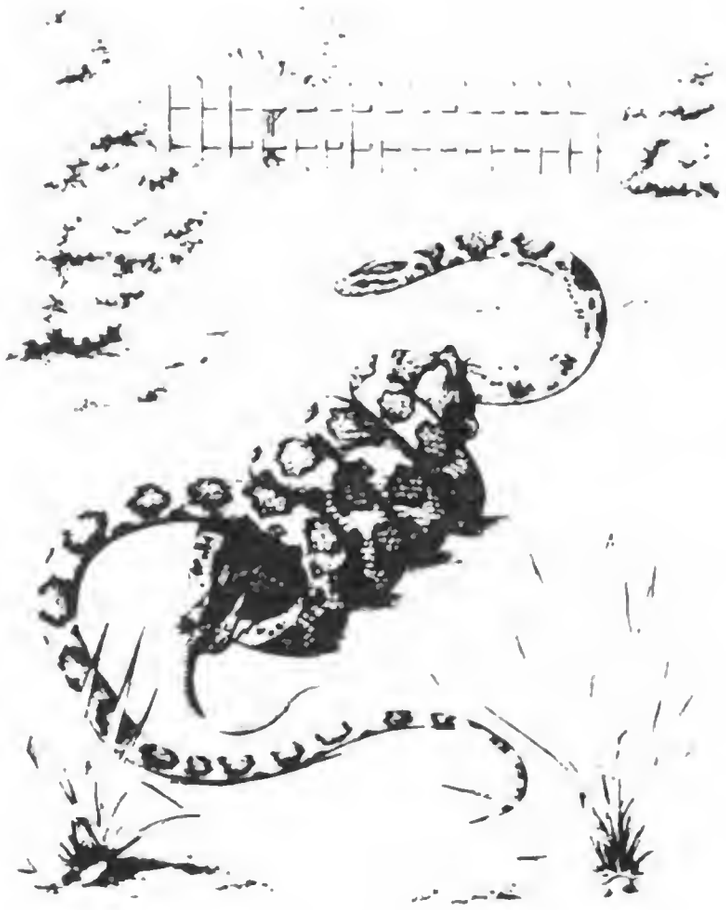


The Distribution and Identification of Two-lined Salamanders in Virginia

Oliver Ghitea and Paul Sattler
Department of Biology
Liberty University
Lynchburg, VA 24506

The two-lined salamander, *Eurycea bislineata* (Green) has a broad distribution in eastern North America, occurring from southeastern Canada to Florida, and from the Mississippi River to the Atlantic ocean (Conant, 1975). The subspecies *bislineata, cirrigera, rivicola,* and *wilderae* have traditionally been recognized according to the following morphological diagnostic characters: (1) cirri are present in *cirrigera* and some *wilderae* (only detectable in sexually mature and active males). (2) Costal groove counts are 15-16 for *bislineata,* 13-14 for *cirrigera,* and 14-16 for *rivicola.* (3) The stripe rarely extends beyond the midpoint of the tail in *bislineata* and *wilderae,* extends to the distal fourth or apex of the tail in *cirrigera,* and extends beyond the midpoint of the tail in *rivicola* (Mittleman, 1966). These morphological criteria have clearly been of value in distinguishing these subspecies. However, the existence of many and different range maps (Conant, 1958, 1975; Mittleman, 1966; Tobey, 1985; Jacobs, 1987) suggests that morphological data alone may not be sufficient.

A recent study by Jacobs (1987), which analyzed genetic variation in the group by protein electrophoresis, suggested that the complex comprises at least three separate species. He proposed elevating the previously recognized subspecies of *E. b. bislineata, E. b. cirrigera,* and *E. b. wilderae* to specific status. Although *E. b. bislineata* and *E. b. cirrigera* appear to behave as genetically distinct species, Jacobs called for a thorough investigation of the contact zone to determine if there really is reproductive isolation as one would expect to occur between species. The common occurrence of these two subspecies in Virginia makes the Commonwealth an ideal study site for such an investigation. This is a preliminary report on our attempt to determine the ranges of *E. b. bislineata* and *E. b. cirrigera* in Virginia, using a combination of morphology and protein electrophoresis.

Materials and Methods

The morphological traits used to distinguish between species were the number of costal grooves, length of the tail stripe, and presence of cirri (in breeding males only). Protein electrophoresis used standard

starch gel techniques (Selander et al., 1971) and the same proteins used by Guttman and Karlin (1986) and Jacobs (1987) to differentiate these salamanders. Samples were prepared using whole-body homogenates.

Both larvae and adults were captured by hand or hand net from 46 different populations. The collection sites are presented in Appendix A. Although whole-body homogenates were used for electrophoresis, specimens were usually photographed. These slides, and for some populations voucher specimens, are currently deposited in the Liberty University Museum of Natural Science collection.

Results and Discussion

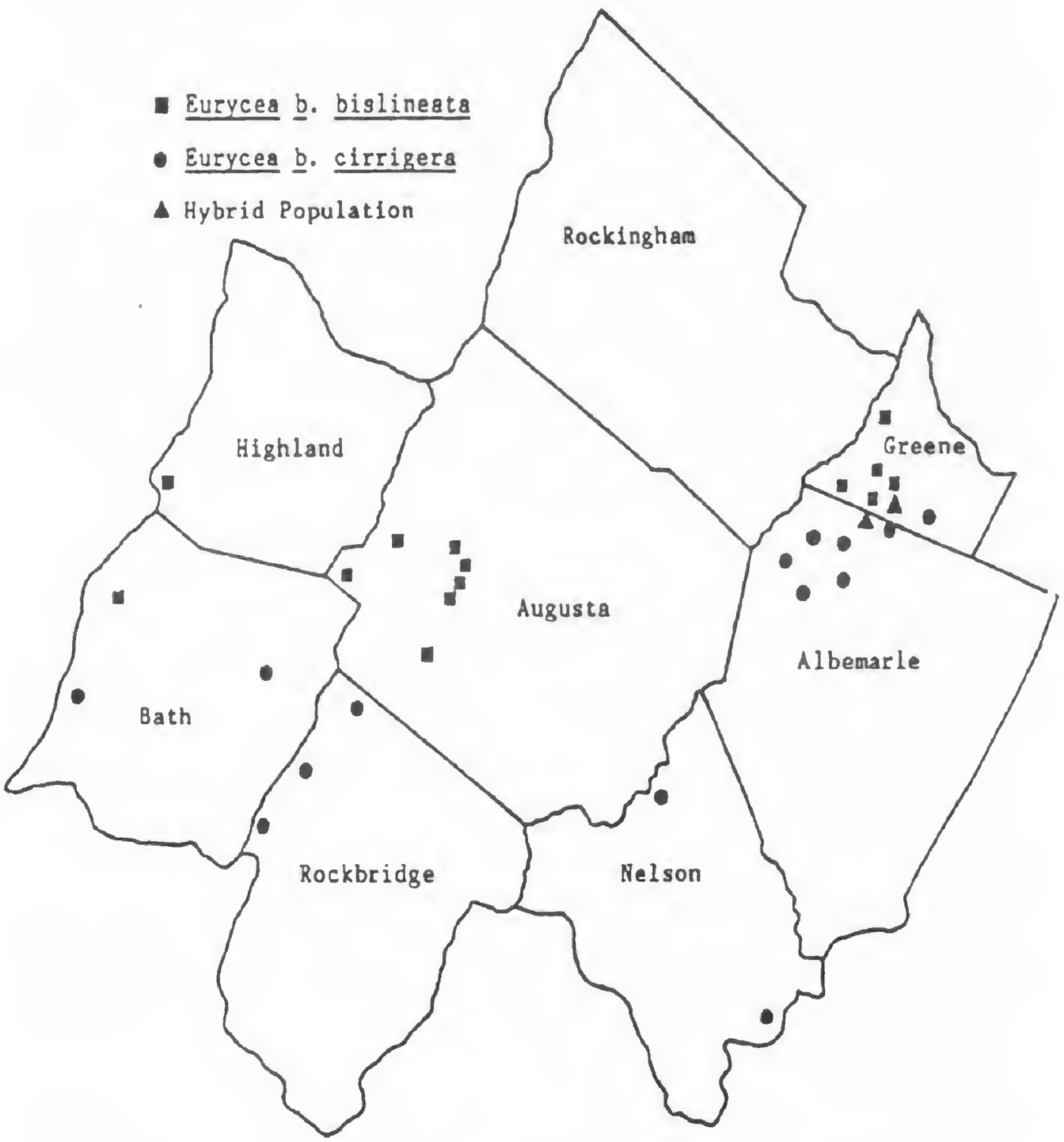
Our first observation was that the electrophoretic protein markers were able to consistently differentiate the two forms. A clearly defined contact zone was found near the Greene/Albemarle County line and extended Westwards (Figure 1). Samples to the north were determined consistently to be *E. b. bislineata* and samples to the south were *E. b. cirrigera*.

A second observation was that none of the morphological characters was able to consistently discriminate the two forms, at least near the contact zone. The number of costal grooves was 14-16 for *E. b. bislineata* and 13-15 for *E. b. cirrigera*. There was an overlap with 14-15 costal grooves being found in both forms.

There was likewise no consistent pattern for the length of the tail stripe. *E. b. bislineata* had tail stripes from <50% the length of the tail to >75%. While most *E. b. cirrigera* had tail stripes >75% the length of the tail, many were observed to be <50%.

The presence of cirri in *E. b. cirrigera* and their absence in *E. b. bislineata* can only be compared in sexually active males. Not all the collections in this study were made late enough in the fall breeding season for a complete analysis to be performed. However, it was noted that some male *E. b. bislineata* from central Greene County did possess cirri. This observation eliminates the morphological trait for which *E. b. cirrigera* is named as a rigorous taxonomic indicator, at least in populations near the contact zone.

Figure 1. Distribution of Eurycea bislineata populations in west-central Virginia.



A possible reason for the breakdown of morphological characters in Virginia could be introgression. Most morphological traits are controlled by more than a single genetic locus. Gene flow between these two forms at one or more of these loci could account for the small number of individuals in many Virginia populations which do not appear to correspond with the subspecies expected at that locality. The finding of at least limited introgression beyond the contact zone of the genes coding for the protein markers tends to support this view.

Because Jacobs' (1987) study examined a large geographic area with widely separated samples, one can conclude only that the contact zone in central Virginia lies somewhere between Staunton and Bedford. In our study, the contact zone was identified at one specific point, namely the Roach River at County road 603, just north of the Greene/Albemarle County line. This is considerably north of the contact zone suggested previously and based on morphological characters (Conant, 1958; Mittleman, 1966; and Tobey, 1985), but consistent with data of Jacobs (1987).

In delineating the contact zone west of Charlottesville, we attempted to collect along north-south drainage systems. Along the Little Calfpasture and Calfpasture Rivers, the Augusta/Rockbridge County line marks the approximate location of the contact zone. *Eurycea b. bislineata* occurs along the Little Calfpasture north of Craigsville, and in the Calfpasture River drainage, in Augusta County. *Eurycea b. cirrigera* occurs along the Little Calfpasture south of Craigsville and in Stuart Run, a tributary of the Cowpasture River, in Rockbridge and Bath Counties.

In the very western part of Virginia, the contact zone was found to be just north of Lake Moomaw. *Eurycea b. bislineata* was found in a small tributary of Mill Creek, which like Back Creek, also flows into Lake Moomaw. The town of Mountain Grove, just west of Warm Springs, marks the approximate contact zone.

It should be noted that the contact zone does not always follow obvious geographic barriers such as drainage systems. As the contact zone was being narrowed, it was expected that the Buffalo Branch of Middle River with a northern drainage would be occupied by *E. b. bislineata* while the adjacent Little Calfpasture River with a southern drainage might be occupied by *E. b. cirrigera*. Instead, *E. b. bislineata*

extends about ten km south into the headwaters of the Little Calfpasture River at Craigsville. It is possible that either the contact zone is not static but is moving either north or south or that geographic boundaries, such as river drainage systems play only minor roles in determining the position of the contact zone.

A more extensive analysis of the contact zone at the Greene and Albemarle County line and the distribution of the northern and southern forms is continuing. Such analysis of the Greene-Albemarle County contact zone is necessary to determine the taxonomic status of these salamanders, although preliminary results support Jacobs (1987) elevation to specific status. Analysis of the distribution is necessary to more fully delineate the contact zone. We have only examined a few drainage systems in widely separated areas to obtain the approximate range in the western portion of the State where the salamanders are most abundant. The precise contact zone is currently known only at the Roach River in Greene County. There remains considerable work to do not only in western Virginia to establish the contact zone in additional river systems, but in eastern Virginia where we currently have no data at all.

As work on this species complex continues, it must be emphasized that the ability of protein markers to consistently differentiate between *E. b. bislineata* and *E. b. cirrigera* with a higher degree of confidence than morphological markers alone necessitates their use in future studies of this complex.

Acknowledgements

Robert Littlejohn and Joseph Mitchell made significant contributions to this manuscript. A large number of individuals aided in the collection of specimens, including: Terry Spohn, George Damoff, Mike Hayslett, Steve Rhodes, Jeff Schmidt, Jeff Hampell, and Aubrey Neas.

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Appendix A. Collecting sites designated by stream and road intersections

Species	N	Locality
E. b. cirrigera	(3)	Tributary to Vaughns Creek, 1.5 km S. of US 460 Prince Edward Co., VA
E. b. cirrigera	(1)	Bell Creek at CO 626, 0.6 km N. CO 658, Prince Edward Co., VA
E. b. cirrigera	(6)	Brown's Branch of Buffalo Creek at CO 664, 1.4 km S. CO 669, Prince Edward Co., VA
E. b. cirrigera	(4)	South Fork of Spring Creek at CO 757, 0.6 km S. of CO 663, Prince Edward Co., VA
E. b. cirrigera	(4)	Rock Castle Creek at VA 8, 4.6 km NW. of VA 40, Patrick Co., VA
E. b. cirrigera	(7)	Austin Creek at US 60, Buckingham Co., VA
E. b. cirrigera	(15)	Stony Creek 0.8 km from end of CO 751, Nelson Co., VA
E. b. cirrigera	(4)	Tributary to Buffalo Creek at CO 722, 0.8 km S. of VA 56, Nelson Co., VA
E. b. cirrigera	(3)	Opossum Creek at CO 667, Campbell Co., VA
E. b. cirrigera	(3)	Right Hand Fork of Cub Creek at CO 644, Appomattox Co., VA
E. b. cirrigera	(5)	Bowler Creek at CO 628, Appomattox Co., VA
E. b. cirrigera	(7)	Suanee Creek at CO 621, Appomattox Co., VA
E. b. cirrigera	(1)	Rough Creek at CO 705, Appomattox Co., VA
E. b. cirrigera	(1)	Blackfoot Creek at CO 665, Appomattox Co., VA
E. b. cirrigera	(15)	North Fork of David Creek at CO 654, 1.9 km N. of VA 24, Appomattox Co., VA

E. b. cirrigera (1) Tributary to David Creek at CO 654, 0.6 km S. of CO 615, Appomattox Co., VA
E. b. cirrigera (1) Buck Mountain Creek at Co., 601, 0.5 km N. of CO 671, Albemarle Co., VA
E. b. cirrigera (14) North Fork of Rocky Creek at CO 671, 0.8 km E. of CO 609, Albemarle, Co., VA
E. b. cirrigera (7) Muddy Run on CO 687, 1.0 km E. of CO 810, Albemarle Co., VA
E. b. cirrigera (3) Doyles River at the intersection of CO 629 and CO 810, Albemarle Co., VA
E. b. cirrigera (3) Doyles River at the intersection of CO 687 and CO 810, Albemarle Co., VA
E. b. cirrigera (15) Lynch River at CO 603, Albemarle Co., VA
E. b. cirrigera (9) Lynch River at CO 810, 0.4 km N. of CO 663,
E. b. bislineata (2) Albemarle Co., VA
E. b. bislineata X cirrigera hybrids (2)
E. b. cirrigera (2) Welsh Run at CO 617, Green Co., VA
E. b. cirrigera (4) Roach River at CO 603, Greene Co., VA
E. b. bislineata (22)
E. b. bislineata X cirrigera hybrids (2)
E. b. cirrigera (2) Parker Branch of Roach River at CO 633, Greene Co., VA
E. b. bislineata (20) Haneytown Creek, N. of CO 631, 0.8 km W. of CO 630, Greene Co., VA
E. b. bislineata (13) Roach River at CO 810, Greene Co., VA
E. b. bislineata (29) Swift Run along US 33, 0.6 km N. of CO 625, Greene Co., VA
E. b. bislineata (22) Lynch River W. of CO 614 and E. of CO 628, Greene Co., VA
E. b. bislineata (5) Hazel River at CO 600, 3.4 km S. of CO 608, Rappahannock Co., VA
E. b. cirrigera (16) Stuart Run at CO 629, 0.2 km N. of CO 633, Bath Co., VA
E. b. cirrigera (16) Tributary of Mill Creek at CO 600, 10.6 km S. of VA 39, Bath Co., VA
E. b. bislineata (3) Tributary of Back Creek at CO 600, 2.9 km N. of Forest Route 6003, at High Voltage lines, Bath Co., VA
E. b. bislineata (2) Townsend Draft at VA 84, 33.6 km W. of CO 600, at Roadside Table, Highland Co., VA
E. b. cirrigera (3) Goshen Branch of Calfpasture River on VA 42, 8.3 km N. of CO 780 and 2.4 km S. of CO 687, Rockbridge Co., VA
E. b. cirrigera (5) Bratton Run on CO 780, 1.1 km S. of VA 42, Rockbridge Co., VA
E. b. cirrigera (6) Bratton Run at intersection of CO 780 and CO 850, Rockbridge Co., VA

E. b. bislineata (13) Jerkemtight Creek of Hamilton Branch of Calfpasture River on CO 399, 1.1 km W. of CO 629, Augusta Co., VA

E. b. bislineata (10) West Dry Branch of Calfpasture River on CO 688, 7.4 km E. of CO 629, Augusta Co., VA

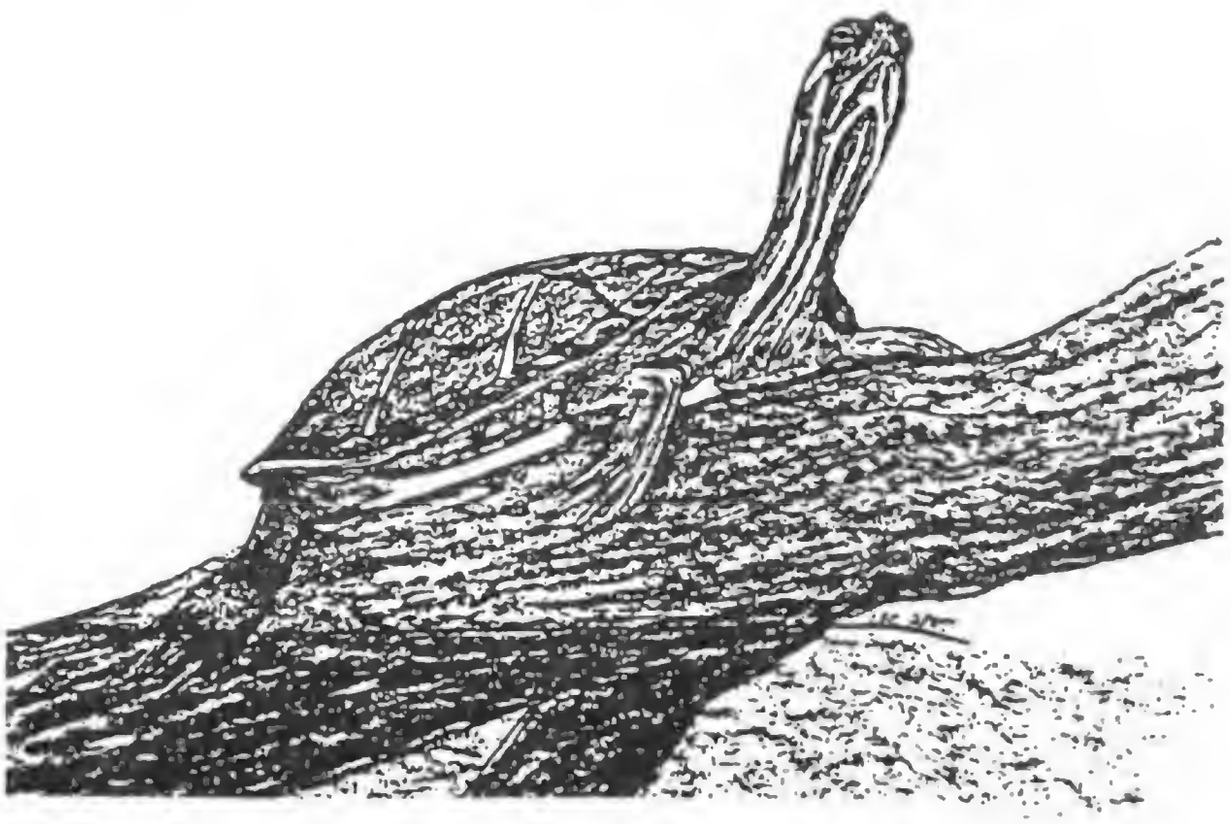
E. b. bislineata (13) Smith Creek of Little Calfpasture River on CO 601, 0.8 km S. of VA 42 at Augusta Springs, Augusta Co., VA

E. b. bislineata (14) Little Calfpasture River at VA 42, 10.6 km S. of Buffalo Gap, Augusta Co., VA

E. b. bislineata (6) Headwaters of Little Calfpasture River at VA 42, 8.0 km S. of Buffalo Gap, Augusta Co., VA

E. b. bislineata (16) Buffalo Branch of Middle River, 4.3 km S. of Buffalo Gap on Va 42, Augusta Co., VA

E. b. bislineata (2) Buffalo Branch of Middle River, 2.2 km S. of Buffalo Gap on VA 42, Augusta Co., VA



FIELD NOTES

Caretta caretta (Loggerhead Sea Turtle) and Lepidochelys kempi (Atlantic Ridley Sea Turtle): VA: Virginia Beach/Norfolk. 8-14 December 1989. S. Barco and T. Pitchford.

Five live sea turtles, one Atlantic ridley and four loggerheads were stranded between 8 December and 14 December 1989. On 8 December, a 60 lb. loggerhead was stranded at 29th St. and on 9 December another loggerhead was stranded at Lynnhaven Inlet. On 10 December, a 75 lb. loggerhead was found at False Cape State Park, approximately 2 miles from the North Carolina state line. A 5.5 lb. Atlantic ridley was picked up at Seashore State Park on 11 December.

These turtles all suffered from cold shock brought on by a prolonged period of extremely cold weather. Two of the loggerheads and the ridley were transported to the Virginia Marine Science Museum for initial treatment. They were later transported to the Virginia Institute of Marine Science (VIMS) for long-term rehabilitation. The ridley, which suffered external wounds to the eyes and flippers apparently inflicted by birds, died on 12 December. Another final live loggerhead stranding occurred in Norfolk at Willoughby Spit on 14 December. This turtle joined the other 3 loggerheads at VIMS. All 4 turtles have been fully rehabilitated and are awaiting release (D. Keinath, VIMS, Personal Communication).

Five dead loggerheads have been reported since the last live stranding. All of the carcasses were in good shape (condition 3) signifying recent death. It is very unusual to have such late strandings since most sea turtles leave this area by November (Keinath et al. 1987. Va. J. Sci. 38:329-336). Water temperatures in Chesapeake Bay are too low to allow sea turtles to overwinter. Animals exposed to water temperatures below 12° C become lethargic and will eventually die. The water temperature on 8 December was 10° C. These live strandings are the latest recorded strandings in Virginia (D. Keinath, VIMS, personal communication). The turtles were most likely late migrators caught by the rapid drop in sea water temperature.

Susan G. Barco and Thomas D. Pitchford
Virginia Marine Science Museum
717 General Booth Boulevard
Virginia Beach, BA 23451

FIELD NOTES

Elaphe guttata guttata (Corn Snake): VA: Dinwiddie County, Co. Rt. 650, 1.9 miles east of DeWitt. 27 July 1989. R.A.S. Wright.

A juvenile DOR corn snake was collected alongside wooded lowlands adjacent to a corn field. The specimen has been preserved and donated to the teaching collection in the Biology Department of Lynchburg College. The species has not been previously recorded for Dinwiddie according to Tobey (1985. Virginia's Amphibians and Reptiles: A Distributional Survey, Privately Published, Purcellville, 114 pp.).

Robert A.S. Wright
Central Va. Biological Research Consortium
5204 Riverside Drive
Richmond, VA 23225

Alligator mississippiensis (American Alligator): VA: Stafford County, Aquia Creek. 25 May 1982. Stuart Daggett.

An immature female alligator (snout-vent length 69.5 cm, total length 144.5 cm; measurements taken after thawing) was shot with a 22 caliber rifle on this date by Marvin Jett. He and his brother were washing their truck in the creek. S. Daggett (pers. comm.) noted the location should be Accakeek Creek, a tributary of Potomac Creek just south of the mouth Aquia Creek. He said that a truck driver picked up the alligator somewhere in the south and tried to give it away but turned it loose near U.S. Route 1 and Potomac Creek. It was found within one month of its apparent release. The specimen lacked abrasions on the venter and feet usually characteristic of captive specimens. It did, however, have one abrasion on the throat. S. Daggett, then a Virginia Game Warden, gave the specimen to the National Museum of National History on 14 October 1982. It was maintained frozen until early December 1989, skeletonized, and cataloged as USNM 291916.

Acknowledgment: I am grateful to Stuart Daggett for supplemental information on this specimen.

Joseph C. Mitchell
Dept. of Biology
University of Richmond
Richmond, VA 23173

FIELD NOTES

Terepene carolina carolina (Eastern Box Turtle): VA: City of Hampton, 0.6 mile east of Big Bethel Road and Semple Farm Roads. 17 June 1989. E.R. Crawford and R.A.S. Wright.

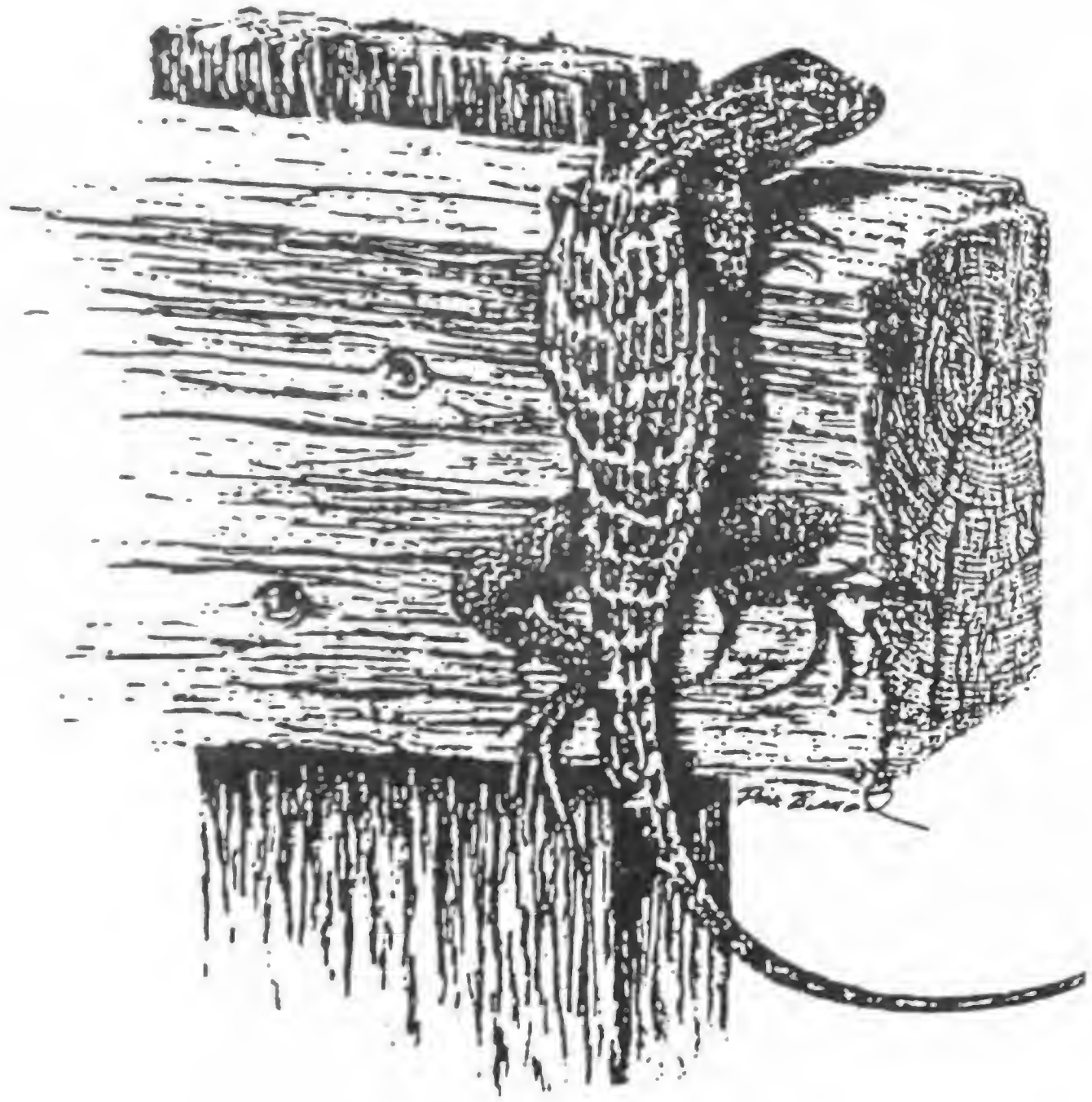
Numerous specimens were seen in large, seasonally wet deciduous wooded tracts near the Big Bethel Reservoir. The box turtle has not been officially recorded from Hampton (Tobey, 1985. Virginia's Amphibians and Reptiles: A Distributional Survey, Privately Published, Purcellville, 114 pp.).

Edward R. Crawford & Robert A.S. Wright
Central Va. Biological Research Consortium
5204 Riverside Drive
Richmond, VA 23225

Opheodrys aestivus (Rough Green Snake): VA: City of Hampton, 0.6 mile east of junction of Big Bethel Road and Semple Farm Road. 17 June 1989. E.R. Crawford and R.A.S. Wright.

This specimen was captured in a pool on an old logging trail. According to Linzey & Clifford (1981. Snakes of Virginia. Univ. Press of Va., Charlottesville, Va, 158 pp.) a record for the species exists for Hampton. However, the rough green snake is not recorded for this location in Tobey (1985. Virginia's Amphibians and Reptiles: A Distributional Survey, Privately Published, Purcellville, 114 pp.) The specimen was captured, identified, and released.

Edward R. Crawford & Robert A.S. Wright
Central Va. Biological Research Consortium
5204 Riverside Drive
Richmond, Virginia 23225



PRESIDENT'S CORNER

We are all bombarded now with predictions of what the 1990's will bring. Economic challenges, unheard of political changes in the world, and alterations in American culture are part of the news that seem commonplace. Certainly one of the most difficult aspects of the next decade, indeed one that affects all of us and one that hits home to VHS members, is the concern over the environment. Those of us with interests in the natural history of amphibians and reptiles are witnessing an unprecedented decline in populations of these animals. This may not be as apparent as with migratory birds, but it is still happening. We here in Virginia are beginning to see the reduction began some 50+ years ago. Ask anyone who works with herps in the field and they will say that there are fewer now than there were 10, 25, and more years ago. Human population trends and the demand for living space consume land and fragment populations. The challenge facing all of us is to find some way to stem the tide.

But how can we as individuals help? As members of the VHS, we can do our part by educating as many people as possible. Educate everyone you meet about the importance of amphibians and reptiles in the ecosystem that supports us. Learn as much as possible about how herps serve as indicators of ecosystem health. Learn how they function as components of the dynamic system. And talk about it. All of you received a form on which you can indicate your willingness to give talks. Fill this out and return to Mike Clifford. You can also let your local schools and nature centers, and yes even your civic organizations, know you can talk about natural history. Use these occasions to educate the public about conservation. Feel free to do this on behalf of the VHS - it is one of our chartered goals. Get the public movitated, for it is only the public who will force the necessary changes through their legislators.

There are other things we need to learn about in order to help conserve our populations of native herps. I recently learned that over 5000 box turtles have been collected in Virginia for the pet trade, presumably for sale overseas. I heard that Virginia wood turtles, a species recommended for state Threatened status, have been collected for profit. See item 5 under News below about snake poaching. How many native Virginia herps are collected for the glorification of someone's pocket? I am not saying that all collecting for pets is wrong. However, I do think that the taking of 5000 box turtles and potentially endangered species is completely irresponsible. What is the magnitude of such collecting in Virginia? I'd be very interested in hearing from anyone who has information of any sort, even word of

mouth, of any collecting for profit. Perhaps the VHS can start a file on this and maybe even use it to help limit some of it someday.

The VHS can be a leader in the area of conservation of Virginia's biodiversity. Only the bird and plant people have societies such as ours. Although I know they are doing some conservation work, I don't see them out there educating the public. Think about it. Get active.

****

The VHS has received numerous issues of newsletters and other publications from other regional herp societies over the years. They have been passed around from editor to editor and sit largely unused in boxes. They are still accumulating. Examples are Notes from NOAH and newsletters from the Kansas, Minnesota, St. Louis, New Mexico, and North Carolina Herp. Societies, to name a few. What do we do with these publications? Bring your thoughts to the Spring meeting and let's resolve this problem.

****

Finally, this issue of *Catesbeiana* is produced by Dr. Paul Sattler of Liberty University. Paul agreed to take on the job of Editor last fall. We welcome him as the fourth editor of our publication. Please give him all of your support by sending in your field notes and articles about Virginia herpetology.

NEWS

1. Mountain Lake Biological Station, a branch of UVA located in Giles County west of Blacksburg, offers college level courses of various types that may be of interest to VHS members. In 1990 Dr. Stephen G. Tilley, a well-known herpetologist, is teaching a course in Animal Population Biology (June 10 - July 14). Dr. Phillip C. Shelton is teaching Natural History of the Southern Appalachians at the same time. Other courses are available. There are awards that can reduce student expenses. For further information, write the Director, Mountain Lake Biological Station, Rm. 251, Gilmer Hall, University of Virginia, Charlottesville, VA 22901.

2. Those of you interested in knowing more about the changing world of herpetology may be interested in one or more of the following (all published quarterly except as noted):

a. American Society of Ichthyologists and Herpetologists, publishers of *Copeia*. ASIH Business office, Florida State Museum, University of Florida, Gainesville, FL 32611. $35/year.

b. The Herpetologists' League, publishers of *Herpetologica* and *Herpetological Monographs*. Write Joseph C. Mitchell, Secretary, Dept. of Biology, University of Richmond, VA 23173. $34 gets both journals.

c. The Society for the Study of Amphibians and Reptiles, publishers of *Journal of Herpetology, Herpetological Review*, and other publications. J. Eric Juterbock, Ohio State University, Lima Campus, Lima, OH 45804. $35 gets both.

d. American Federation of Herpetoculturists, publishers of *The Vivarium*. AFH, PO Box 1131, Lakeside, CA 92040. $26, 6 issues/year.

e. Chicago Herpetological Society, publishers the *Bulletin of the CHS*. CHS, 2001 North Clark St., Chicago, IL 60614. $17.50, 12 issues/year.

3. Interested in conservation? The Society for Conservation Biology publishes *Conservation Biology*, a renowned and widely read international journal. Blackwell Scientific Publications, Inc., Three Cambridge Center, Suite 208, Cambridge, MA 02142. $39.50/year.

4. **COLLECTING PERMITS FOR AMPHIBIANS AND REPTILES ARE NOW NECESSARY.** Yes, you will be in violation of state regulations if you collect any amphibian or reptile (or any other animal, except insects) without a permit. The Department of Game and Inland Fisheries (VDGIF) passed a regulation, effective January 1, 1990, that anyone collecting in Virginia must have a valid permit. Game wardens are checking people in the field. You will need to fill out a form provided by the VDGIF and they will ask you to report on all collections at the end of the calender year. Write to the Fish Division, Dept. of Game and Inland Fisheries, P.O. Box 11104, Richmond, VA 23230-1104.

5. **SNAKE POACHING IN STATE BLAMED ON PROFIT MOTIVE** was the headline of a story in the Richmond Times-Dispatch on 28 January 1990. A raid in Staunton and in Albemarle and Greene counties uncovered an animal poaching ring that included the collection of copperheads. A Staunton man had sold 12 copperheads to an undercover agent. The venom, skin, and organs, particularly the gall bladder, are sold to various people. The problem of the collection and sale of nongame wildlife is growing. Don Patterson, chief law enforcement officer of the U.S. Fish and Wildlife Service in Richmond, says that all wild animals need some degree of protection. The VA Dept. of Game and Inland Fisheries is trying to strengthen its protection of all wildlife. This problem is related to the first topic addressed in the President's Corner. We need more information to better counteract this negative impact on our natural heritage. If you are alarmed about this problem, write or call your state representative and write to the Director, VA Dept. of Game and Inland Fisheries, P.O. Box 11104, Richmond, VA 23230-1104.

6. You may be interested in the Reptile Defense Fund (5025 Tulane Dr., Baton Rouge, LA 70808), a new private group engaged in conservation education and, presumably, action. It costs $15 to join and receive their monthly newsletter.

7. The Eastern Seaboard Herpetologists League will hold their next meeting on 17 March 1990 in Greenville, NC. For information write Dr. John Wiley, Pediatrics-Genetics, Brody 3N52 ECU-SOM, Greenville, NC 27834-4354.

Joseph C. Mitchell, President
January 30, 1990

PHOTOGRAPHS NEEDED FOR VIRGINIA HERPETOLOGY BOOK

The manuscript for the Amphibians and Reptiles of Virginia book by J.C. Mitchell and C.A. Pague is nearing completion. We are now in the final stages of manuscript production. This is to be followed by construction of distribution maps and the assembly of all photographs. We expect the Nongame Program of the VA Dept. of Game and Inland Fisheries, which has provided full support for this book, to seek a publisher this year.

If you are interested in contributing, please consider submitting your photographs (color slides only) to us. Each species will be illustrated with a color photo of an adult from a Virginia population. A few will be of individuals from outside of Virginia but only if we cannot find appropriate photos of Virginia animals. Each photo must be taken on natural background, staged or not. We prefer entire animal poses rather than head shots. The photo must show the major identification features for that species. It must be in sharp focus. Please label each slide with at least the county the animal was found in and your name.

We will select the most appropriate slide or two from the submissions and return all but those in a few weeks. The slides will be submitted with the manuscript, along with a roster of names and addresses of each photographer. They will be retained until used for this single purpose only and then returned. The photographer's name will be credited in the book. We cannot know if a free copy of the book will be given to each photographer but that is a possibility.

We are especially interested in slides of large freshwater turtles and large snakes, although we will consider slides of any species that you think best illustrates it.

Good photographs of the following species have been difficult to obtain and we seek any that may exist with natural background:

Bufo quercicus	Oak Toad
Pseudacris ocularis	Little Grass Frog
Ambystoma jeffersonianum	Jefferson Salamander
Ambystoma talpoideum	Mole Salamander
Plethodon dorsalis	Zigzag Salamander
Plethodon hoffmani	Valley & Ridge Salamander
Siren lacertina	Greater Siren
Amphiuma means	Two-toed Amphiuma
Necturus punctatus	Dwarf Waterdog
Cnemidophorus sexlineatus	Six-lined Racerunner

Eumeces	all 4 species
Cemophora coccinea	Scarlet Snake
Elaphe guttata	Corn Snake
Nerodia taxispilota	Brown Watersnake
Pituophis melanoleucus	Pine Snake
Regina rigida	Glossy Crayfish Snake

Submit your slides to Joseph C. Mitchell, Dept. of Biology, University of Richmond, Richmond, VA 23173 (804-289-8234). There is no absolute deadline but it would be very helpful to have all slides arranged by July 1, 1990.

HERPETOLOGY COMPUTER NETWORK

The Herpetology On-line Network has been established in Philadelphia as the first computer based messaging system to connect the herpetological community. Any communicating computer or terminal can connect with one of Herp-Net's six lines by dialing the primary access number: (215) 464-3562, 24 hours per day. A modem is necessary. There are no fees required to access Herp-Net.

Those interested in the study, breeding, or conservation of reptiles or amphibians can meet others on-line, ask questions, discuss the current literature, and exchange files. It is a great way to learn what others are doing and make new friends.

If you need help in selecting a computer, modem, or getting on-line, write for the new booklet, "Connecting to Herp-Net."

For more information or submission of news, please write to the Herpetology On-Line Network, P.O. Box 52261, Philadelphia, PA 19115.

MINUTES OF FALL 1989 VHS MEETING

Twenty four people attended the Fall meeting held at Maymont Park in Richmond, October 7, 1989. President Joe Mitchell opened the meeting at 9:45 a.m. Secretary/Treasurer Ron Southwick presented the Treasurer's report. Balance on hand as of October 7, 1989 was $998.44.

Kathy Viverette (Maymont Park representative) welcomed VHS members and presented a brief history of Maymont Park.

Old Business

Vice President Kurt Bulhmann discussed the "Captive Herp Identification" workshop he put together for the Fall meeting for young herp lovers. Thirty people registered and participated in that workshop.

Lynda Richardson handed out an example "draft" of the Society poster to be used as a recruiting tool in secondary schools. Ways of funding the poster project were discussed.

President Joe Mitchell brought up Dale Brittle's efforts in putting together an educational "activity" booklet on Herps. An earlier mailing to all members requesting ideas for the booklet resulted in zero replies. Joe asked that members try and get something to Dale sometime during Winter.

Lynda Richardson asked if there was a possibility of putting together a "speakers" list from the Society to go out and make presentations to interested groups. Mike Clifford volunteered to take on that task of compiling a list.

Joe Mitchell announced that Paul Sattler from Liberty University would be taking over the editorship for *Catesbeiana*. Joe will assist Paul with editorial chores. Paul's address is:

Dr. Paul Sattler
Department of Biology
Liberty University
Box 20,000
Lynchburg, VA 24506

Proposals for the $100.00 VHS "Field Research Grant" for 1990 will be accepted by Joe Mitchell until February 1990.

Election of officers for 1990 - There was no new slate of candidates for 1990. A motion was made by Richard Hoffman to re-elect 1989 officers. Motion was seconded by Tom Crutchfield. A vote by the membership at the meeting was unanimous to re-elect current officers.

New Business

A request by the Va. Wildlife Society for VHS to participate in hosting a breakfast for General Assembly members (Jan. 1990) was discussed. A minimum donation of $50.00 was requested, and two Society members would be able to attend the breakfast. This request was approved by the membership. Another request for Society sponsorship for the Back Bay Symposium (Nov. 1990) was brought up and will be discussed at the Spring meeting. A discussion on how to increase the VHS treasury in order to continue to support worthwhile projects resulted in several ideas from the floor. These included approaching businesses with environmental interests, newspapers and the Va. Nongame fund.

Joe Mitchell brought up the need for the VHS to have a permanent address. Richard Hoffman suggested using the State Natural History Museum in Martinsville, which would forward mail to the current VHS president.

Joe Mitchell asked for any old photographs from previous VHS meetings to be used in putting together a history of the Society.

Plans for the Spring meeting were discussed. A time and place will be decided at a later date.

Business meeting adjourned at 10:45 a.m.

Respectfully submitted,

Ron Southwick,
Secretary and Treasurer

TREASURER'S REPORT
Fall 1989 Meeting

The balance in the bank at the Spring Meeting was $1174.00.

Expenditures since that time were:

Dave Young (Research Study Grant)	100.00
Dale Brittle (Postage & printing for letters to membership requesting educational material for teacher booklet.	37.30
Printing of *Catesbeiana*	116.49
Postage for *Catesbeiana*	50.00
Check printing & charges	10.52
Total Expenditures	$314.31

Receipts from dues, bumper stickers and bank interest totaled $138.75.

Balance on hand as of October 6, 1989 was $998.44.

The Society has a current membership of 122 as of 10/6/89.

Respectfully submitted,

Ron Southwick
Secretary and Treasurer

ANNOUNCMENT

SPRING 1990 MEETING OF THE VIRGINIA HERPETOLOGICAL SOCIETY

The Spring 1990 VHS meeting will be held on April 7-8 at the Holiday Lake 4H Center, in Appomattox County, Virginia.

Location: The Holiday Lake 4H Center is surrounded by the Buckingham-Appomattox State Forest off VA Route 24 between US 460 and US 60. Persons arriving from the southern half of the state may take US 460 to Appomattox. Persons arriving from the northern half of the state may take either US 60 (proceed to about 3 miles west of Buckingham) or US 460. Follow the signs at the entrance road off VA Rt. 24.

Meeting Place: The bunkhouse (follow signs)

Facilities: The bunkhouse is heated and contains 3 sections of 12 beds each, male and female bathrooms, a kitchen, and a meeting room.

Fees:		
	Overnight use	$8.50 per person (adult & child)
	Saturday or Sunday only	$2.00 per person
	Kitchen fee	$25.00 (paid by VHS)

Tentative Schedule:

Saturday, April 7

12:00 - 12:30	Assembly at the 4H Center
12:30 - 1:30	Lunch (BYO)
1:30 - 6:00	Organized field trips
6:00 - 8:00	Group supper and business meeting
8:00 - 9:00	Slide presentation (TBA)
9:00 - ????	Night field trips, weather permitting

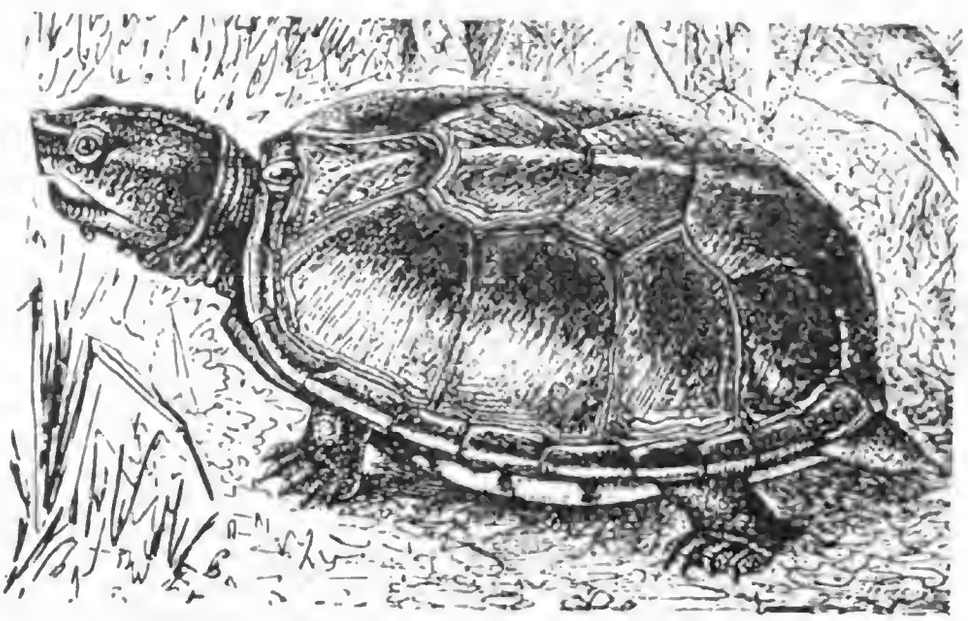
Sunday, April 8

8:00 - 9:00	Group breakfast
9:00 - 12:00	Organized field trips
12:00 - 1:30	Lunch
1:30 - 5:00	Field trips and departure

Notes:

The group supper is being organized by Wendy Mitchell (804-740-7453). **You must call her to arrange who brings what; otherwise you are on your own.** Pots, pans, utensils, food, and cleanup materials must be provided by us. The kitchen has a refigerator and stove. The group breakfast will be organized by Chris Pague. Please bring what you want for breakfast and contribute that and your time to the group meal. **If you do not contact these people, then we will assume you will make your own food arrangements.**

This is a field trip meeting, so wear your hiking clothes and be prepared for wet and cool (cold?) weather. The 1989 trip was cool and even had snow, but we caught numerous herps. Bring cameras.



MEMBERSHIP APPLICATION

I wish to ____ initiate ____ renew membership in the Virginia Herpetological Society for the year 19_____.

___ I wish only to receive a membership list. Enclosed is $1.00 to cover cost.

Name _____

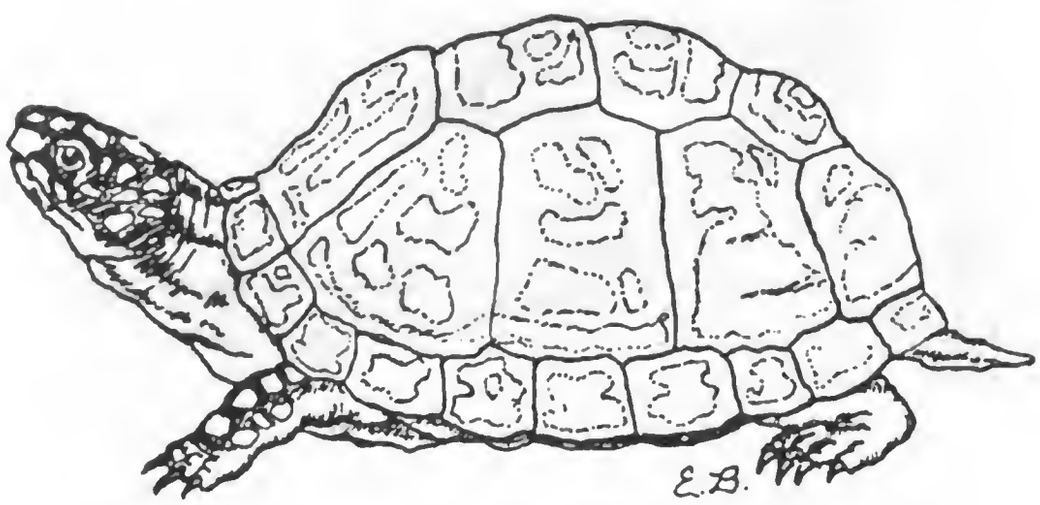
Address _____

_____ Phone _____

Dues Category: ___ Regular ($5.00) ____ Family ($7.50) ___ Under 18 ($3.00) ___ Life ($150)

Interests: ___ Reptiles ___ Amphibians ___ Captive Husbandry
___ Distribution ___ Research
___ Specifically _____

Make checks payable to the Virginia Herpetological Society and send to the treasurer: Ronald Southwick, P.O. Box 5122, Virginia Beach, VA 23455.



Field Notes

This section provides a means of publishing natural history information on Virginia's amphibians and reptiles that does not lend itself to full-length articles. Observations on geographic distribution, ecology, reproduction, phenology, behavior, and other areas are welcomed. Reports can be on single species or fauna from selected areas, such as a state park or county. The format of the reports is TITLE (species or area), COUNTY AND LOCATION, DATE OF OBSERVATION, OBSERVERS, DATA AND OBSERVATIONS. Names and addresses of authors should appear one line below the report. Consult published notes or the editor if your information does not readily fit this format.

If the note contains information on geographic distribution, a voucher specimen or color slide should be sent for verification and deposited in a permanent museum or sent to the Virginia Herpetological Society. Species identification for observational records should be verified by a second person.

The correct citation format: Croy, S. 1984. Field Notes: *Lampropeltis getulus niger*. *Catesbeiana* 4(1):12.

Herpetological Artwork

Herpetological artwork is welcomed. If the artwork has been published elsewhere, we will need to obtain copyright before we can use it in an issue. We need drawings and encourage members to send us anything appropriate, especially their own work.